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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR        | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-----------------------------|---------------------|------------------|
| 10/671,591  | 09/29/2003  | Shin Koike                  | 243161US0           | 9971             |
| 22850 7590 05/07/2008<br>OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.<br>1940 DUKE STREET<br>ALEXANDRIA, VA 22314 |             |                             |                     |                  |
| EXAMINER<br>METZMAIER, DANIEL S   |             |                             |                     |                  |
| ART UNIT<br>1796  |             | PAPER NUMBER                |                     |                  |
| NOTIFICATION DATE<br>05/07/2008   |             | DELIVERY MODE<br>ELECTRONIC |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/671,591

**Applicant(s)**

KOIKE ET AL.

**Examiner**

Daniel S. Metzmaier

**Art Unit**

1796

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,6-11,14-16,19-21 and 23-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-11,14-16,19-21 and 23-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Claims 1-3, 6-11, 14-16, 19-21 and 23-26 are pending.

#### ***Specification***

1. The disclosure is objected to because of the following informalities: the specification is objected because of the inconsistency between the weight ratio as set forth on page 13, lines 9-15, and the actual weight ratio exemplified. The weight ratio set forth on page 13 requires an excess of emulsifier, while the exemplified ratios have an excess of fat or oil to emulsifier.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what is applicants intended invention based on the inconsistency between the weight ratio set forth on page 13, lines 9-15, and the actual weight ratio exemplified. The weight ratio set forth on page 13 requires an excess of emulsifier, while the exemplified ratios have an excess of fat or oil to emulsifier.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 6-11, 14-16, 19-21 and 23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kao Corporation, EP 0 402 090 A2 (hereafter Kao). Kao (examples 10-12) disclose compositions reading on the instant claims.

It is noted that applicants' claims use open transitional language and do not define the concentrations by weight of the components or emulsions. The claims have been interpreted herein as reading on the broadest of the concentration basis. The open language does not exclude other elements of the claims to include other oils in the oil phase and the concentrations read on the concentrations based on the oil or fat component.

Kao (examples 10-12) employ oil compositions (9), (10), and (11) respectively (see table 7 at page 16). At least oils (10) and (11) read on the instant claimed oil comprised in the instant oil phase. The claimed *trans* fatty acid content would have been inherent to the compositions since non-hydrogenated oils are commonly found in the *cis* form and the Kao Corporation references discloses the preferred high concentration of the *cis* form.

Kao (examples 10-12) employ 10 parts of sugar to 90 parts of an emulsion, which is 51 parts water. This equates to about 19 % by weight of sugar in the aqueous phase.

Kao (examples 10-12) employs a fatty acid sucrose ester as an emulsifier in the exemplified compositions. Sucrose monostearate or sucrose monolaurate have an HLB of about 15, which is an HLB of 8 or more. Kao (page 6, lines 37-46, particularly lines 41 and 42; and pages 8, 9 and 11, test examples 1 and 2 and example 1, respectively) disclose the use of polyglycerine fatty acid ester (product of Sakamoto Yakuhin KK MS-750), which is decaglycerine monostearate having an HLB of about 13 or 14

Kao (examples 10-12) discloses the formation of oil-in-water emulsions employing emulsifiers. Those skilled in the art would expect the emulsions to have an HLB of 8 or more to form an oil-in-water emulsion rather than water-in-oil emulsion formation typical to emulsifiers having a HLB of less than 8.

Kao (examples 1 and 10-12) disclose the emulsions are formed by preliminary emulsification followed by homogenization at 75° C with 150 Kg/cm<sup>2</sup> (~2100 psi). Those skilled in the would have expected the particle size of the emulsion to be 0.9 or less microns when homogenized at 150 Kg/cm<sup>2</sup> (~2100 psi).

Lastly, Kao (examples 10-12) discloses the emulsions are whipped to form whipped cream. The specific gravity would have been expected since the particle sizes are conventional for edible emulsions and the gravity is at or near the upper end-point of the claimed range for the emulsion prior to whipping. Any whipped air, which is clearly disclosed by the characterization as whipped cream, would clearly reduce the specific gravity with the claimed range.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-3, 6-11, 14-16, 19-21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kao Corporation, EP 0 402 090 A2, in view of Ono et al, US 5,962,058, and Lichtenstein et al, *Effects of Different Forms of Dietary Hydrogenated Fats on Serum Lipoprotein Cholesterol Levels*, The New England Journal of Medicine, Vol 340, (6/24/1999) No. 25, pp 1933-1940, optionally further in view in view of Chiou et al, US 5,378,286, Cook et al, US 4,533,254, Miller et al, US 6,025,006, and Kahn et al, US 4,390,550.

Kao Corporation (abstract; page 1, line 4; page 2, lines 35 et seq; page 3, lines 4-8; page 4, lines 8-11, 23-34, and 46-49, particularly lines 33 and 48; page 7, lines 3 et seq; examples and claims) disclose oil-in-water emulsions employing diglycerides at a concentration reading on the claimed range of 30 to 90% by weight of the oil phase and having unsaturated fatty acids in a concentration of 70 % or more, preferably 80 % or more of the diglycerides. Kao Corporation (page 4, line 33) discloses the incorporation of sugar and (page 4, line 48; and examples 10-12) clearly contemplates foams by the disclosure of at least whipped cream.

The Kao reference differs from the claims in the sufficiency of disclosure of a single composition explicitly setting forth each of the claimed limitations or the *trans* fat content. Kao discloses oil-in-water emulsions formed with an edible-oil advantageously having rich flavor and lower fat content. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to employ the components within the teachings of the Kao reference for the advantageous use in making edible products.

It is well known in the food art to whip air into compositions to reduce the cost and calories thereof. Applicants have not shown the compositions commensurate in scope with the claims to be patentably distinguished and/or unobvious in view of the Kao reference.

The particular fats and glycerides are disclosed at page 8, lines 6 et seq of the Kao reference and the oils (9), (10), and (11) at page 16, Table 7.

Kao Corporation (column 3, lines 6-8) discloses the preferred use of di-cis-unsaturated diglycerides at a concentration of 70 % or more. Kao Corporation

(abstract; page 2, lines 42-45; page 4, lines 23-34; page 6, lines 37 et seq; examples and claims) disclose the use of emulsifiers and proteins to improve taste and stability.

While Ono et al discloses foamable emulsions for whipped products employing oils, Ona et al employs oils having a high degree of saturated fatty acid components and exemplifies the use hardened oils, which are known to produce undesirable trans fats.

Lichtenstein et al teaches the *cis* fatty acid configuration is desirable to the *trans* forms since the *trans* forms have detrimental effects on the serum lipoprotein cholesterol levels.

These references are combinable because they teach whipped edible products. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ the edible oil formulations of Kao in the formulations of Ono et al for their advantageous low fat, advantageous unsaturated *cis* fats, rich fatty flavor and low fat content.

To the extent the Kao reference differs from the claims in the particle size, Chiou et al and Cook et al disclose emulsion forming utilizing high pressure apparatus, e.g., microfluidizer for the advantage of a small particle size, e.g., 0.25 microns. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ a microfluidizer in making the emulsions of Kao for the advantage of a more stable homogeneous composition.

Miller et al discloses foams and emulsifiers therefore. Miller et al (column 2, lines 49 et seq) discloses fatty acid sucrose esters including sucrose monostearate having a



HLB of 16 and decaglycerol monostearate having a HLB of 13. These references are combinable since the Miller et al reference discloses conventional emulsifiers for foods and foams. It would have been obvious at the time of applicants' invention to employ conventional food emulsifiers for foams as whipped creams, such as sucrose ester and polyglycerol esters having an HLB above about 10 as taught in the Miller et al reference.

Furthermore, Kahn et al (column 6, lines 29-38) disclose food oil-in-water emulsions and the specific gravity or density of 0.3 to 0.4 for butter cream or whipped cream. It would have been obvious at the time of applicants' invention to employ conventional degrees of whipping for foams as whipped creams.

***Allowable Subject Matter***

9. Limiting the independently claimed oil phase in the composition to "consisting of" and optionally providing for a vegetable sterol (claims 19-20) and an antioxidant (claim 21) would obviate the above prior art rejection. Said limitation would further include at least amending (A) to change "comprising" and "containing" to "consisting of". Dependent claims 8-11, 16, and 19-21 would require amending the transitional language therein to "consisting of" for proper dependency.

***Response to Arguments***

10. Applicant's arguments filed 15 January 2008 have been fully considered but they are not persuasive.

11. Applicants (page 10 of the 15 Jan 2008 response) assert none of the references disclose the claimed concentrations of the oil phase, aqueous phase and sugars. This

has not been deemed persuasive and is addressed in the above rejections. Since Nomura et al is homogenized, said particle size would have been expected to have been inherent. Furthermore, conventional homogenization as shown by Chiou et al and Cook et al result in emulsions having particle sizes in the claimed range. Applicants have failed to show that said limitation is not inherent or at least obvious in view of the art applied. Mere difference does not equate to unobviousness.

12. Applicants (pages 10 and 11) assert the claims have been amended to recite an emulsifier. This has not been deemed persuasive and has been addressed in the above rejection. It is well known to those in the art that emulsifiers having a high HLB (greater than 8) tend to form oil-in-water type emulsions, while low HLB (less than 8) tend to form water-in-oil type emulsions. Nomura et al forms oil-in-water emulsions. Said emulsifier is disclosed in Nomura et al and the HLB thereof would have inherently been 8 or more. Furthermore, Miller et al shows specific fatty acid sucrose ester emulsifiers among other high HLB emulsifiers for foam compositions.

13. Applicants (page 11) assert the claim 23 is separately patentable based on unexpected results. This has not been deemed persuasive since applicants showing is not deemed commensurate in scope with the claims, has not been shown to be statistically significant and is measured subjectively rather than quantitatively.

14. Applicants (page 11) assert the secondary references do not disclose the improved sweetness of the emulsions. This has not been deemed persuasive for the reasons set forth in the preceding paragraph.

15. Applicant's remaining arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David W. Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**/Daniel S. Metzmaier/  
Primary Examiner, Art Unit 1796**

DSM